

WE CLAIM:

1. A method for the expression of a somatotropin in plants said method comprising:

5 (a) introducing into a plant cell a chimeric nucleic acid sequence comprising:

- (1) a first nucleic acid sequence capable of regulating the transcription in said host cell of
- (2) a second nucleic acid sequence, wherein said second sequence encodes a recombinant fusion polypeptide and comprises (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in frame to (ii) a nucleic acid sequence encoding said somatotropin; and
- 10 (3) a third DNA sequence encoding a termination region functional in said plant cell; and
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(b) growing said plant cell to produce said recombinant fusion polypeptide.

2. The method according to claim 1 further including separating the recombinant fusion polypeptide from cellular host cell components by selective partitioning into a lipid phase.

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3. The method according to claim 1 further including separating the recombinant fusion polypeptide from cellular host components by selective partitioning into a lipid phase comprising oil bodies.

4. The method according to claim 3 wherein said recombinant fusion polypeptide is separated by addition of oil body components and reconstitution of the oil bodies.

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5. A method according to claim 1 wherein said somatotropin is a fish growth hormone.

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6. A method according to claim 5 wherein said fish growth hormone is carp growth hormone.

5 7. A chimeric nucleic acid sequence encoding a recombinant fusion polypeptide comprising (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in reading frame to (ii) a nucleic acid sequence encoding a somatotropin.

8. A chimeric nucleic acid sequence according to claim 7 having the nucleic acid sequence shown in SEQ.ID.NO.:1.

10 9. A chimeric nucleic acid sequence, capable of being expressed in association with an oil body of a plant cell, comprising:

- (1) a first nucleic acid sequence capable of regulating the transcription in said plant cell
- 15 (2) a second nucleic acid sequence, wherein said second sequence encodes a recombinant fusion polypeptide and comprises (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in reading frame to (ii) a nucleic acid sequence encoding a somatotropin; and
- 20 (3) a third nucleic acid sequence encoding a termination region functional in said host cell.

10. A chimeric nucleic acid sequence according to claim 9 wherein said somatotropin is a fish growth hormone.

25 11. A chimeric nucleic acid sequence according to claim 10 wherein said fish growth hormone is carp growth hormone.

12. A plant transformed with a chimeric nucleic acid sequence according to claim 9.

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13. A plant according to claim 10 wherein said plant is selected from the group comprising rapeseed (*Brassica* spp.), linseed/flax (*Linum usitatissimum*), safflower (*Carthamus tinctorius*), sunflower (*Helianthus annuus*), maize (*Zea mays*), soybean (*Glycine max*), mustard (*Brassica* spp. and *Sinapis alba*), crambe, (*Crambe abyssinica*), eruca (*Eruca sativa*), oil palm (*Elaeis guineensis*), cottonseed (*Gossypium* spp.), groundnut (*Arachis hypogaea*), coconut (*Cocos nucifera*), castor bean (*Ricinus communis*), coriander (*Coriandrum sativum*), squash, (*Cucurbita maxima*), Brazil nut (*Bertholletia excelsa*) and jojoba (*Simmondsia chinensis*).
- 10 14. A plant seed containing a chimeric nucleic acid sequence according to claim 9.
- 15 15. A plant seed according to claim 14 wherein said seed is obtained from a dicotyledenous plant.
- 16 16. A plant seed according to claim 14 wherein said somatotropin is expressed in the embryogenic tissue of the seed.
17. A plant seed comprising a recombinantly expressed somatotropin.
18. A plant seed according to claim 17 wherein said somatotropin is expressed as a fusion protein.
- 20 19. A plant seed according to claim 18 wherein said fusion protein comprises an oleosin.
20. A plant seed according to claim 17 wherein said somatotropin is expressed in the embryogenic tissue of said seed.
- 25 21. A plant seed according to claim 19 wherein said somatotropin is expressed in the embryogenic tissue of said seed.

